

Stihl Incorporated Technical Information

Stihl Incorporated
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E10 Ethanol Fuel Guidelines

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1. Gasoline Containing 10% Ethanol

Many areas of the country now have mandates in effect for oxygenated gasoline and are introducing gasoline that contains 10% ethanol, sometimes referred to as “E10 gasoline”. Users of STIHL power equipment are becoming concerned that these fuels will damage their equipment’s engine. With a minor amount of care and a little preventative maintenance, gasoline containing 10% ethanol can be used in STIHL power equipment. Oxygenated and E10 gasoline is designed to burn cleaner and reduce air pollutants. These fuels have been available in regional areas of the country for many years and are becoming more common throughout the United States.

2. Guidelines for Using E10 Gasoline

If the proper precautions are taken, gasoline containing a 10% quantity of ethanol should not generally cause a problem in STIHL products. The following simple precautions will help to avoid major engine damage when using today’s 10% ethanol blended gasoline in STIHL power equipment engines.

- Make sure the carburetor is adjusted properly for the fuel that is being used. Oxygenated gasoline and gasoline containing ethanol has a tendency to “lean out” the carburetor mixture when compared to non-oxygenated fuels. A slight carburetor adjustment may be needed.
- Use a good quality oil designed for use in air-cooled mix lubricated engines. All STIHL mix oils readily mix with gasoline containing 10% ethanol. STIHL HP Ultra fully synthetic mix oil is especially suitable for use with E10 gasoline.
- Keep your fuel fresh. Only buy enough gasoline that you can easily use up in a two-month time period.
- Shake your gas can well, not only when first mixing the oil, but also every time before you fill up your equipment. This is a good habit to get into and will help keep the oil well dispersed in the fuel.
- Properly store your equipment. If your equipment is not going to be used for 60 days or more, the remaining gasoline that is in the machine should be drained from the tank and properly disposed

of. This will ensure that you will not have fuel going stale in the tank and gathering moisture.

- Water or condensation in a fuel storage can or the machine's fuel tank can cause ethanol to separate from the gasoline/oil mix. If this occurs, the ethanol will settle to the bottom of the tank and will have little or no lubrication mixed with it. Using this separated mixture will cause overheating, engine running problems, piston seizures, or other major engine damage. It is important to keep a fresh mixture and to avoid getting water in the gasoline. If this occurs, the fuel should not be used and properly disposed of. Engine damage caused by water/moisture and separation of ethanol from the fuel/oil mixture is not covered by STIHL's Limited Warranty Policy.
- Equipment should be checked over periodically by a STIHL dealer. Items such as fuel filters, tank lines, carburetor diaphragms, and spark plugs should be checked and replaced if necessary as part of a normal engine tune-up.

3. Summary

There are quite a few myths surrounding ethanol containing fuels. By following the guidelines previously mentioned, you can use gasoline that contains 10% ethanol in STIHL power equipment.

Gasoline containing higher than 10% ethanol content (e.g. 85% ethanol-E85) cannot be used in STIHL power equipment. Doing so will cause major engine damage and is not covered by STIHL's Limited Warranty Policy.